

1. Description:

Kvick Skate is a new type of under-skate for use on all types of skates, with and without gas/air pillows. This means compressed air in whole or parts of the air parts in the front, middle or rear end on the skate.

Without the gas/air pillows the under-skate is constructed with elastic parts in the front, rear, and in whole/parts of the middle part, the under-skate will then spring and flatten out, tilt and twists, also upwards. With increased pressure/load (e.g. with all weight on one leg, high velocity in curves and more) will give considerable friction advantages.

The under-skate can also be stiffened higher/lower (weight of skater) by sliding adapted parts in grooves (see drawing).

By increased pressure/load means when the skater is putting all force on one leg, the under-skate will feather and flatten out in the middle part and give longer sliding surface. When the skater makes turns/curves (centrifugal effect) the velocity and long sliding surface is maintained without restraining the curve characteristic by feathering the front and rear part of the under-skate upwards dependent of turning radius.

By distributing the weight on to legs will bring the under-skate back to shorter sliding surface/radius. The part were the strips/steel (that can be separated from the under-skate, clicked eventually screwed on) is fastened is movable upwards, sideways and twisting.

2. Area Of Application:

Under-skate for use on all types of skates

3. Technique That The Invention Is Based On:

Cited publications raised under the investigation shows no friction advantages to any great extent, due to fixed/partly steel solution that anyhow must be delivered/grinded with gliding surface in the middle part and early rounding upwards in both ends of the skate.

As an alternative a radius grind can be used, this means that it is grinded a fixed radius under the whole skate steel. Both alternatives is to make the skate easy maneuverable in turns, but loses considerably speed due to short gliding surface. (Increased pressure on short surface)

4. What Is Particularly Gained By The State Of This Technique:

The under-skates frame construction and description (slanting quadrangle, round profiles/air parts, "feathering" construction/mass) distributes the weight on a longer stroke due to feathering when used on hard foundation (ice).

When the under-skate feathers/flattens out and gives a longer sliding surface by increased pressure (all weight on one leg) you will obtain friction benefits, increased speed due to more contact with the foundation (ice) without restraining the turning abilities.

The skate will follow the skater's movements, also in turn irrespective of radius due to the movable middle, front, and rear part.

The under-skate at sudden stop by cross placing the skate will always give after in the rear and front end, this happens due to more flexibility in the ends than the middle part of the skate were it has a moment e.g. 1.5mm, from the toe joint foothold that has 100% moment (due to the kick-off). This means that the skate is not falling in more than a given amount of millimeter in the middle part! Example 1 mm.

5. Which Means Necessary To Achieve The Above:

Under-skate is build up with flex/movable plastic parts up down, sideways and twisting.

6. Industrial Exploitation

Under-skate can be used to all types of skates.

7. Closer Explanation On The Invention Preferably Illustrated With Sign's:

The invention is described with drawings and descriptions.

Screw 1 shows that if it is screwed out against the ends of the skate in both ends it becomes stiffer. 4a and 4b is only showing the extra material thickness that is fixed in the groove profile 3a and 3b.